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Interprofessional Health Team Communication About Hospital Discharge: An Implementation Science Evaluation Study

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Abstract:

The Consolidated Framework for Implementation Research guided formative evaluation of the implementation of a redesigned interprofessional team rounding process. The purpose of the redesigned process was to improve health team communication about hospital discharge. Themes

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emerging from interviews of patients, nurses, and providers revealed the inherent value and positive characteristics of the new process, but also workflow, team hierarchy, and process challenges to successful implementation. The evaluation identified actionable recommendations for modifying the implementation process.

Health team communication is critical to patient care quality and safety.[1] Breakdowns in interprofessional communication can result in compromised patient safety and lack of patient involvement in and understanding of their own health care. Implementing improvements in health care team communication processes can be complicated requiring coordination of the health care team.[1] One coordination strategy is implementation of structured communication between nurses and other providers to enhance patient safety, knowledge of the discharge plan, and quality of care provided through discharge.[2]

Quality improvement efforts focused on communication processes require effective implementation and evaluation of interventions; implementation science provides direction for studying the structural and process factors that affect implementation success. The goal of implementation science is to investigate the translation of research into practice through evaluation of methods, interventions, and variables that influence adoption and sustainability of evidence-based practices.[3] Implementation research can take the form of formative evaluation or summative evaluation. Formative evaluation, the focus of this investigation, provides a method for concurrent evaluation that serves as a learning process to identify discrepancies between the implementation plan and its operationalization, uncover actionable barriers, refine components of the practice change, reinforce progress, and provide a working hypothesis to explain success or failure of the implementation. Understanding current practice can offer organizations useful information for successful future implementation to promote sustainability.[4]

Background

Hierarchical and cultural perspectives and priorities often differ among disciplines and present barriers to communication.[5–7] These include differing prioritization of care and definition of meaningful patient discussion,[6,8,9] which result in lapses in communication among providers and patients and in poor patient health outcomes.[10] A paradigm shift toward patient-centered collaborative care among health professionals is a major factor in the majority of current discharge preparation interventions that result in positive outcomes. Specifically, those interventions focusing on interprofessional discharge communication decreased readmissions.

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Interprofessional communication about discharge is most effective in an environment with a clear understanding of health care team member responsibilities [7,10,12] that can be achieved in acute care settings through a collaborative team rounding process. Current discharge communication studies are focused on the transfer of information and continuity between inpatient and outpatient providers.[13,14] Prior to hospital discharge, miscommunication between health team members about the discharge plan can result in delays in hospital discharge.[15] Studies are needed that evaluate interprofessional team communication and the facilitators and barriers to successful implementation of communication process improvements.

An academic-clinical partnership team (the authors of this article) at a midwestern Academic Medical Center initiated a combined research and practice improvement project, titled the Communication About Readiness (CAR) for discharge study. The focus of this project is on structured, interprofessional communication. Currently in progress on 2 inpatient surgical units, it is investigating the effect of a team rounding process redesign and the resulting practice change on communication between physician-nurse teams and with the patients and families. The redesign led to implementation of daily team rounding at the bedside and nurse bedside shift report. Both rounding processes were enhanced by use of briefing checklists, including a "whiteboard" in each room to facilitate ongoing communication. The overall goals of the redesigned process included improved communication between care team members and with patients, increased congruence between care team members and patient perceptions of readiness for discharge, and reduced readmissions. The purpose of this investigation was to conduct a structured formative evaluation of the implementation of a redesigned team rounding process.

Methods

Study design

A qualitative design was used for the formative evaluation of the practice change. Interviews, focus groups, and observation of team rounding were used to understand the context within which the practice change was implemented and to uncover factors associated with success or failure of the redesigned rounding process to achieve its intended goals.[16]

Sample

The sample consisted of inpatient care team members and adult medical-surgical patients from 2 surgical units of a Midwestern, Magnet-designated, academic medical center participating in a practice change aimed at improving communication. Care team members included providers (physicians, residents, physician assistants, advanced practice nurses)

and clinical nurses on units participating in the practice change. Patients were at least 18 years of age, could speak English, and were to be discharged directly home without hospice care. Sampling in each group occurred until consistent themes were evident during the interviews. The final sample consisted of individual interviews of 7 providers and 6 patients, focus groups with a total of 20 nurses, and observations of 9 health team rounds.

Instrument

The Consolidated Framework for Implementation Research (CFIR)[17] was used to develop the interview guides for nurses/providers and for patients/families. The framework was also used for thematic analysis and organization of findings. The CFIR is composed of 5 domains: Intervention Characteristics (influential attributes of the change), Inner Setting (structural, political, and cultural contexts of the implementation), Outer Setting (economic, political, and social context of the organization), Characteristics of Individuals (actions and behaviors of individuals), and Process (planning, engaging, executing, and reflecting).[4,17,18] Each domain has a unique set of constructs that were selected based on the role of the interviewee: patient, nurse, or provider. The CFIR guide recommends that evaluators use the constructs applicable to the situation; not all constructs were used in the interviews.[17] The guides included launch questions followed by probes to elicit further details (Supplemental Digital Content, Table available at: http://links.lww.com/JNCQ/A305) and were specific to either provider/nurse or patient.

Data collection and analysis

Following institutional review board approval, providers and nurses were solicited on a voluntary basis by the unit Clinical Nurse Specialists. Patients who had previously consented to participate in the CAR study were approached to participate in the implementation evaluation. Two external investigators explained the procedure to participants and informed consent was obtained. The evaluation consisted of face-to-face interviews with individual providers and individual patients, as well as focus groups with nurses; all were conducted in private rooms. Interviews occurred between September and October 2015 and varied in length: providers ranged from 12 to 25 minutes, nurses ranged from 18 to 28 minutes, and patients from 8 to 25 minutes. All interviews were audio-recorded and verbatim text was extracted and transcribed. Both external investigators were present for each interview and the interviews were analyzed prior to subsequent sessions. Participants were identified only by role: provider, nurse, or patient. Recordings were destroyed after transcription.

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Observations of the actual process of team rounding with patients were performed to validate the interview themes. Audio-recordings were not obtained for these observations. Notes on observations were written during the process and reviewed immediately after the observation. The focus of these observations was on the process of the rounds, specifically observing for the flow, participant involvement, use of communication tools, and content of the communication.

Data collection and analysis occurred simultaneously. Using a constant comparative analysis method, transcriptions and notes from interviews, focus groups, and observations were notated with memos after each data collection event.[19] Themes were developed by review and re-review to develop consensus among the 2 external investigators.

Results

Themes emerging from patient, nurse, and provider responses in individual, group, and observation settings provide a contrasting picture of the team rounding implementation process.

Patient themes

The patient perceptions touched on 3 of the domains: Intervention Characteristics were evident in patient perceptions of the team rounding process; Inner Setting was reflected in patient participation in the rounding process; and Process concerns were reported related to lack of coordination of the plan of care.

Perception of the team rounding process

Patients consistently expressed a positive perception of team rounding as a group. According to the patient, rounds occurred daily; the individuals attending rounds varied. Specific characteristics reported by patients included feeling the rounds ran smoothly and they liked having the team in the room. However, with probing, the patients expressed that they were unclear how the process worked.

Patient participation in the rounding process

The structure (inner setting) of the rounding process was difficult for patients to understand and explain. The use of various communication strategies, such as a whiteboard, a care pathway not associated with team rounding, or just a discussion, often confused the patient and fragmented the patient's focus. Information was transferred to patients outside of rounds and most often by staff nurses and medical students. Patients reported observing 1-way communication from the physician to the nurse and a clear hierarchical ranking during the rounding process, with the highest-ranking provider in

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charge of the rounds. The patients did not feel included in the decision-making process: "There were a lot of meaningful glances back and forth where I felt like a spectator."

Lack of coordination of plan of care

Patients' critiques of the process indicated that they understood that a clear plan of care needed to be communicated by the medical team to the patient and the staff nurse, but the whiteboard communication tool was not being used consistently for that purpose. Patients expressed confusion about the timing of discharge and what influenced the discharge process (tests, patient actions, physical status, diet, bowels, etc).

Nurse themes

The nurse perceptions also touched on 3 domains: Intervention Characteristics were evident in the perceived benefits if implemented correctly; Process was reflected in the lack of priority; Inner Setting was portrayed in the culture and logistics of team participation; and the theme "changes necessary for success" represented attributes of all 3 domains.

Benefits if implemented correctly

Overall, the staff nurses felt the team rounding process and the whiteboard communication tool met the needs of the patients when used correctly. They articulated a need for the process, especially having all parties aware of the plan of care. They did not feel any pressure or notice any barriers from leaders and felt they had sufficient resources to participate in the change. The nurses highlighted that the patients "liked" the whiteboard, and the inclusion of the patients in rounds was an advantage over other discharge initiatives. For example, a nurse commented: "If implemented correctly, the whiteboard really does help patients feel more empowered on discharge. If we use the laminated board and everything is filled out, then they have a constant reminder of everything that is going on and what is anticipated."

Not a priority

Nurses expressed limited awareness of existing literature or evidence to support the new rounding process, and while there was general leadership endorsement, the new process was not a priority. Indifference to the implementation process was verbalized with comments that the process often occurred without their involvement. One nurse reported that as monitoring of the implementation process diminished, so did nursing staff attention to the team rounding process: "When we first popped the whiteboards up, we were asked how it was doing or does it help, but we haven't been asked that lately. People don't do it anymore."

Team participation

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Nurses felt the components of the redesigned discharge communication process fit well into their workflow; however, without consistent rounding times or an assigned role to populate the whiteboard, it was difficult to implement. The nurses were expected to update the whiteboard even though a communication process had not occurred for them to receive an updated plan during the team rounding process. In many cases, it had become "just another thing to do." A nurse explained: "Sometimes I am hesitant to put things on the board because I don't know what the plan is from the team. I don't want to give the patient false information."

Whether the staff nurse was involved in rounds depended on multiple factors: the nurse was in the patient's room, the physician pushed the "MD in room" light notifying staff that a provider was in the room, the nurse sought out the team, or no effort was made to find the nurse. The varying physician participation was also a strong sentiment expressed. The units were almost unanimously described as "team" mixed with "hierarchical" culture. They often lacked physician enculturation into the team, which the nurses believe inhibited investment in the team rounding process and use of the whiteboard tools:

> The biggest disadvantage ... is the doctors not participating. On nights the doctors don't tell us when they are here. If you don't catch them, you don't know what they are saying, and half the time the patient doesn't remember what they said. If the doctors don't update the board, the nurses don't know what they have changed.

Changes necessary for success

Nurses expressed limited confidence of continued implementation without future improvements in role assignment, physician involvement, and competing interventions. The intent of the new rounding processes was appreciated, but nurses found execution difficult. The suggestions for improvement included predictable time and/or notification that providers are ready to round, consistent review of information on whiteboard by the providers and nurses with patients, and increased involvement of the entire care team on all shifts. If these things were changed, the staff nurses believed this would become a sustainable practice change: "I thought initially that when the doctors were rounding, they are supposed to let us know they are there and then one of us could write on the whiteboard. Ideally, this is supposed to happen, but it doesn't always happen."

Despite lack of consistency in rounding and whiteboard use, the staff nurses did see some positive progress in regard to communication. One nurse commented:

> On our floor we had horrible communication between teams two years ago. There is no doubt that the [new team rounding] and the use of a discharge flow

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> coordinator has improved our communication ... however, the nurses weren't told who was responsible for the whiteboard.

To the best of the staff nurses' knowledge, the process was implemented according to plan, but many of them did not remember being involved in the plan, and some felt there were timing issues that affected the implementation of the practice change. A typical comment was:

> Things just happen. The people involved in the first part [team rounding process planning] had a grasp of the process, but if you weren't involved then you didn't know what was going on.

Finally, staff nurses consistently commented on the inability to clean off the whiteboards as well as the lack of assigning responsibility for cleaning the boards. Often the cleaning spray was not available, the boards did not wipe clean, or they contained ghost images, indicating they were not cleaned.

Provider themes

The provider perceptions touched on 3 of the domains: Patient inclusion was a valued Intervention Characteristic; team hierarchy revealed issues within the Inner Setting for implementation; and changes necessary for success represent the need for attention to the Process domain.

Patient inclusion in the team

Providers (physicians, residents, advanced practice nurses) had a general lack of awareness of literature support for the team rounding process but indicated that it made sense. They explained that one of the main advantages was that it involved the patient and helped to promote a team atmosphere. The redesigned rounding processes were viewed as a positive practice change that, if done properly, would meet the needs of the patient.

> There are many advantages ... efficacy of communication, making sure everyone is all on the same page, you [the provider] are rounding on that patient anyways so why not get everyone involved. Often orders are put in and the person who spends the most face time with the patients [the nurse] ends up unsure about what is going on with the patient.

Team hierarchy

All providers felt the process was an excellent idea and not complicated, but execution was an issue. The providers indicated it fit into their existing practice and did not require any additional resources or workflow change from their established rounding patterns. The providers reported that communication was often one sided, with the burden mainly

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falling on the staff nurse. There was agreement that filling out the whiteboard tool and the ability to round together required change from the staff nurse, but not the provider: "It is a one-sided communication practice. When I [the provider] go to round, the nurse has to drop everything and come round with me. It is obviously convenient for me and the way my work is set up, but it is the only way I see it working."

There was limited attending physician endorsement, and the majority of providers had limited involvement in the planning, implementation, and ongoing evaluation of the team rounding process. A provider commented: "I feel like there was no formalized structure for this and that is where it gets lost. We don't have time for this, and we don't have ownership. If the structure was set up a little better this may have had more impact."

Changes necessary for success

In general, providers voiced a positive feeling about the redesigned rounding, but believed both a cultural shift and specific changes were needed for the process to be sustainable and the changes required involvement of all services. The providers consistently identified 3 areas of change that would help with sustainability: consistent responsibility for writing on the whiteboard, increased provider involvement and support, and continued encouragement of the nurses attending rounds. The providers were confident that the process would be sustainable with coordinated execution.

Despite involvement of key physicians from the units (5 physicians including 3 attending and 2 residents) on the implementation planning team, providers felt no pressure and received no incentives to participate in the process. Communication about the process change was both formal in grand rounds and informal through one-to-one communication; providers reported that most of the information they received came from the unit Clinical Nurse Specialists for the project.

Discussion

The implementation evaluation highlights the many challenges in implementing complex processes. The perspectives across the triad of patient, nurse, and provider expressed a clear message of inherent value of the team rounding process. Even though the practice change was not initially implemented as intended, the perceived value was still apparent. Certain characteristics of the intervention were perceived as positive changes, when implemented, specifically daily rounding, patient involvement, and the use of the whiteboard to coordinate care. The outer setting or organization was ostensively supportive, but inner setting workflow challenges and team hierarchy led to intermittent implementation and failure to sustain the practice. Lack of prioritization and coordination of the plan of care were process concerns.

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The CFIR was a useful framework for formative evaluation. Assessing each domain focuses attention on critical factors that impact success and sustainability of implementation. This study revealed at least one area of concern within the Intervention Characteristics, Inner Setting, and Process Domains. For example, in the domain of Inner Setting, the whiteboard cannot be updated without communication and discussion occurring during the rounding process. In the Intervention Characteristics domain, it was found the whiteboard was intended to drive the process, but rounding logistics and lack of role designation often derailed implementation. In the Process domain, the areas of concern included low prioritization of the team rounding process as well as poor delineation of roles within the new process, and a lack of coordination among team members.

The CFIR provides an opportunity to evaluate implementation planning and the actual progress of the implementation. Researcher observations indicated that the implementation was carefully planned and the team rounding process was detailed. Not as apparent was an equal attention to detail while executing the new processes. This was particularly true while discussing nurse presence during rounds and necessary interprofessional communication to effectively prepare patients for discharge. Staff nurses felt some components of the redesign had the potential to fit well into the workflow (whiteboard) whereas others were still logistically difficult (rounding together). Findings through formative evaluation based on the CFIR can be used to develop tactics to sustain the implementation.

Considerations for improvement include continuing to develop and enhance the workflow of the health care team to increase the frequency of intended participants' presence in the rounding process, specific role designation to assume the responsibility of updating the whiteboard during rounds, and use of updated whiteboard as evidence that a collaborative communication has occurred. In addition, it would be essential to reinvigorate the intent and passion for the implementation in an effort to include new staff and remind all of the background, intent, and purpose of the practice change. Most importantly, team culture building will benefit this process implementation as well as future interprofessional process improvements.

Limitations

This study was completed within a single-site, Magnet-designated academic medical center. The experience of other health teams in Magnet and non-Magnet hospitals may be different. Limiting the study evaluation to 2 surgical units also prevented generalization to other sites. The use of external evaluators, unfamiliar with the culture and workflow, may have affected participant candor. Although the CFIR-based evaluation was used as a formative evaluation tool, the interviews and observations occurred after nurses and

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providers had trialed the rounding process for several weeks. Using the CFIR earlier in the implementation process would have provided valuable and timely information to address some of the challenges encountered in the implementation of the practice change. It was also the evaluators' first attempt at implementing the CFIR and adeptness during interviews improved with each interview. The nurses on the unit helped redesign the team rounding process and may have brought some bias into the interviews. Frequent clarification of the particular processes being examined was required due to confusion around multiple changes including the addition of care coordination rounds and relocation of the unit to a new floor at the initiation of the study.

Implications for practice and implementation research

Health care team communication has the potential to improve quality of care. This evaluation offered the opportunity to garner health care team perspectives on certain aspects of the implementation that the health care team valued differently based on the varied perspectives of the providers, nurses, and patients. Most importantly, this qualitative evaluation was effective in demonstrating the value of a team rounding process as well as the logistical challenges inherent in implementing this type of evidence-based process. The CFIR promotes consistent use of constructs, systematic analysis, and organization of findings. Further research and early utilization of the CFIR during the implementation process may identify modifiable issues and increase the sustainability of applied practice changes.

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